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ABSTRACT

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Academic Objectives in Classroom Management[1]

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Abstract

The misbehavior of children often presents a severe problem to the classroom teacher. An attempt is reported here to eliminate such misbehavior by strengthening a competing and educationally relevant class of behavior, namely academic performance. A classroom was selected in an urban school which included children with the most severe behavior problems. Fourteen children, ages six to nine years, were included in this study. A simple but reliable method for recording the behavior of the teacher in the classroom was first developed; the emphasis in the recording was placed on objective definition and quantification of behavior relevant to academic performance in the classroom. Through training in behavioral procedures, the teacher was able to eliminate the behavior problems while increasing her effectiveness in the classroom as measured by 1) the proportion of time per day spent discussing academic subject matter with the class; 2) the daily number of assignments given to each pupil; and 3) the proportion of correct work performed by the pupils. The increase in academic achievement by the students and the increase in teaching time by the teacher occurred in a matter of four academic days. An additional finding was that six out of the 14 children were promoted to the regular classroom following the behavioral intervention.

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Introduction

Behavior problems observed in the classroom have been generally regarded as reflections of other, more fundamental problems in the life of the child (Berkowitz & Rothman, 1967). According to this view, the misbehavior of the child in school is a re-enactment of his problems with authority figures or represents a symbol of his hostility (Grossman, 1965). The origins of such acting out behavior are presumed to stem from childhood problems. This conceptualization minimizes the influence of the classroom environment on the child's behavior while putting emphasis on the responsibility shared by the child's parents for the child's behavior. This particular view has resulted in extremely provocative speculations regarding the effects of broken, fatherless, and disadvantaged homes on the classroom behavior of children (Long, Morse, and Newman, 1965). At present, the "mental health" approach to such problems relies on child guidance clinics and private psychological and psychiatric practitioners as the major avenues for helping school children. The locale of therapeutic intervention is by definition, then, removed from the school premises, and the agent of therapeutic intervention is generally one of the costly professionals in the area of mental health. While this is not the place to evaluate the therapeutic merits of such clinical intervention, recent evidence casts grave doubts as to its effectiveness (Levitt, 1963).

An alternative approach to dealing with behavior problems in school is based on the premise that behavior is governed by its environmental consequences (Ferster and Skinner, 1957; and Skinner, 1938). Since the environmental consequences for classroom behavior are provided primarily through the teacher, this approach suggests that the child's misbehavior

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is amenable to modification right in the environment where it is observed, namely the classroom. Thus, the classroom becomes the locale of therapeutic behavioral intervention and the teacher the agent of behavior change (Becker, Madsen, Arnold, and Thomas, 1967; Harris, Wolf, and Baer, 1964; Thomas, Becker, and Armstrong, 1968; and Ward and Baker, 1968).

To determine what goes on in the classroom, various systems for recording behavior have been developed (Flanders, 1965, Bijou, Petterson, and Ault, 1968; Clark, Lachowicz, and Wolf, 1968). These systems have focused on either recording disruptive behavior alone or on recording academic performance alone. The usefulness of recording topographies of individual disruptive behaviors is extremely limited since such attempts are costly in terms of number of observers, training of observers, and time required. An alternative approach to the problem of measurement of classroom behavior would be through a system which records the relevant dimensions of both disruptive behavior and academic achievement. Here, the effort would be to measure the effects of disruptive behavior on the teacher's "teaching" and the pupil's academic performance. Since the teacher generally interrupts her teaching during disruptive behavior, the amount of "teaching time" may give us an indirect measure of classroom disruption. Admittedly, a teacher's teaching skill cannot be easily evaluated independently from the pupil's daily academic performance. Therefore, by also measuring directly the pupil's daily academic performance, we may indirectly determine the relative effects of disruptive behaviors only to the extent that they affect academic performance. Put in a different way, direct elimination of misbehaviors may not be necessary or economically desirable to undertake. The same objective may be achieved by focusing on and maximizing academic performance.

Fortunately, successful academic performance and misbehaviors compete with each other. Indeed, it is in the nature of academic objectives that

any degree of appropriate attention, concentration, and interest displayed by the child will probably manifest itself in his academic performance. To the extent then, that a child is performing well academically, it can be safely assumed that the child is indeed paying attention, concentrating, and showing interest in the appropriate academic skills. The converse of this should also be true: to the extent that the child's academic performance is low or non-existent, it can be safely assumed that the child is not interested, is not paying attention, is out of his desk, and possibly may be disturbing others with his "misbehaviors." If this reasoning is correct, then the major behavioral targets for measurement and modification are not concentration, interest, and attention per se (any more than "out-of-seat," "talking-out," etc.) but rather, 1) the academic performances that require these components of "attention" and "concentration" for their successful completion and 2) the teacher's behavior as measured by "teaching time" and the children's academic performance. In summary, then, this study attempted to develop an observational-recording system to influence the children's classroom behavior by having the teacher a) focus on academic performance as a major objective and b) implement behavioral procedures to eliminate classroom misbehavior by reinforcing academic performance while extinguishing and punishing any classroom behavior that competed with it.

Selection of Children

A class containing the slowest learners in an urban public school was selected for this study. These children, regarded as the most unmotivated, undisciplined, and troublesome in the school, belonged to the educable mentally retarded group.

These "educable" mentally retarded children are typically very distractable and often are "hyperactive." As a group, these children are characterized as possessing a short attention span and little or no interest

in academic subjects or activities (Robinson and Robinson, 1965). Further, these children can often be found running "wild" in the classroom, fighting among themselves, dawdling over their work, and going from one activity to another without completing any of the activities. Because of the severity of these problems, teachers with special training are often selected to instruct and manage these children.

The rationale underlying the selection of the educable retarded child for this study was threefold: 1) the classroom teacher, according to our observational and recording system, spent less time teaching academic subject matter than any other teacher in this school; 2) these children, due to their conduct and inferior academic performance were already grouped into a population; and 3) any procedure found to be effective with this typically recalcitrant group promised to have much to offer teachers in charge of children whose level of performance and motivation is not as low as that typically exhibited by the educable mentally retarded.

A classroom with 14 children, 11 boys and five girls, all classified as educable mentally retarded, was chosen for this study. The children all ranged from six to nine years of age. Fifty percent of the children were black and fifty percent were white. The study was begun in March, in the last quarter of the school year.

Method

For a period of six days prior to the start of systematic observations, one observer sat in the classroom, thus allowing both the teacher and the children to become accustomed to his presence. Following this, the teacher was instructed to continue teaching and distributing written assignments to the children. To afford the children maximal opportunities to engage

in academic performance the teacher was instructed to set a time limit for the completion of each written assignment. This procedure was in force throughout the three major periods in this study, and in the following sequence: 1) Classroom Instruction in the absence of Behavior Management procedures; 2) Behavior Management procedures as they were first introduced and later gradually withdrawn; 3) reinstatement of Classroom Instruction in the absense of Behavior Management procedures. The measurement efforts through this study were focused upon the following: 1) the amount of time spent teaching in the classroom without disruption caused by the children; and 2) the academic performance of the children as measured by written assignments. Assignments were given in arithmetic consisting of a) addition and b) subtraction, and in language skills consisting of a) composing sentences, b) circling words, and c) matching words.

The observations were made by an observer who sat in the back of the classroom and recorded the children's and the teacher's classroom behaviors with a clipboard and a stopwatch. The classroom observations were recorded continuously while the teacher was conducting the class. Observations were conducted daily for an average of four and one half hours per day for 16 successive days. Throughout the study, the observations were divided into five minute independent intervals. This resulted in a total of 864 five minute observation intervals over the 16 day period of the study.

Time was cumulated by letting a stopwatch stop and start in direct correspondence to the teacher's behavior. The watch was started at the beginning of each five minute period and allowed to run as long as the teacher was engaging in "teaching behavior" (discussed in detail under

Response Definition), when the teacher began some non-teaching behavior the watch was stopped, and when she began engaging in "teaching behavior" again, the watch was restarted. This procedure was repeated for each five minute interval. The observer could tell when each five minute interval was up and the next interval begun by observing the classroom clock. The observer remained as unobtrusive as possible and avoided any interaction with the children whether inside or outside the classroom.

The Classroom Instruction period allowed observation of the various physical arrangements in the classroom that were particularly helpful or distracting to either the teacher or the children. One particularly interesting observation was that the teacher made a practice of using candy daily to "settle" the children, that is, the candy was made available to the children almost contingent upon their misbehavior. Also, she used a record player which seemed to calm the children down for the duration of the music, although no "teaching" or academic work could be performed due to the noise of the music. These two procedures were discussed with the teacher and were subsequently discontinued when the techniques for behavior management were implemented.

Response Definition

Two classes of behavior were recorded in the classroom: 1) teacher's behavior and 2) children's behavior.

I. Teacher's Behavior

A. Teaching Time. The behavior of the teacher was classified as "teaching" when she spent a minimum of four minutes, out of a five minute observation interval, talking about the subject matter, commenting, guiding, correcting the group or an individual pupil's work, writing on the black-board, distributing assignments or supplies such as pencils and paper, or

any other academically relevant behaviors such as these. The proportion of time spent "teaching" per day was derived by dividing the number of observation intervals recorded as "teaching" by the total number of observation intervals for that day.

B. Non-teaching time. An entire five minute observation interval was classified as "non-teaching" time when the teacher spent more than one minute of a five minute observation interval engaged in establishing order in the classroom or in activities unrelated to those defined as "teaching." Examples of such unrelated activities were commands such as "don't open the window," "come back to your seat," "fold your hands," "everyone quiet now," "I told you not to leave the classroom," "we will start the lesson when everyone is seated properly," "stop fighting," "get of the floor," "give me the pointer," "the next time you throw things at me you go to the principal," and so on. This procedure then, allowed the teacher a maximum of one free minute per five minute interval for the establishment and maintenance of order or for disciplining the children. If "non-teaching" time exceeded one minute for any five minute interval, the entire interval was classified as a "non-teaching"interval. Although the major component of "non-teaching" time was the amount of time spent by the teacher in disciplinary activities, this classification category included any behaviors not directly related to "teaching" such as waiting until the class was quiet, calling out the student's name followed by a few seconds of silence, etc.

The reliability of the observations of the teacher's behavior was obtained by having a second observer make simultaneous observations of the behaviors being measured on three different occasions. Agreement between the two observers was then established interval by interval. This procedure

yielded the following percentages of inter-observer agreement: 81% on day three; 100% on day eight; and 91% on day twelve. The median percentage of agreement across all intervals was 91%.

II. Children's Behaviors: Academic Performance.

While evaluation of a child's academic performance generally includes the child's oral participation and written work in class, the oral or verbal dimension is difficult to measure for every child in a standardized manner. A solution to this measurement problem is to focus on the written record of the child's academic performance. All assignments were so designed as to leave a permanent written record of the child's performance. Therefore, two measures of the child's performance were now possible: 1) the number of academic assignments received by the children and 2) the percent of assignments correctly completed.

A. Number of assignments given. The teacher was instructed to give as many written assignments to the children as they would take without crumpling them up and throwing them away or refusing to accept them. When the children began to crumple the assignments up, or refused to take them, the teacher stopped giving assignments for that day.

B. Percent of assignments correctly completed. The second measure of the children's behavior was the percent of assignments correctly completed. In order to correctly complete an assignment, the child had to answer correctly all the questions presented on that assignment. Typically, each assignment included four or five problems or questions, and increased in difficulty from day to day. Experimentally, it would have been desirable to maintain constant difficulty across all conditions, but the very nature of the educational process requires problems of increasing difficulty.

Behavior Management Teachniques

Procedure. On the basis of the assessment made of both the teacher's performance in the classroom and of the academic performance of the children, a motivational system was designated to generate and to maintain the students' interest in academically relevant behaviors. This system included the contingent use of candy and points. The teacher had previously been instructed in the distribution and timing of the assignments during the Classroom Instruction procedures. This was reviewed and the teacher was coached in reinforcement principles and procedures which were to be utilized contingent upon emission of behaviors selected as relevant to the children's academic performance. The procedures of behavior management were specially designed to promote academic objectives among the children and they included: 1) Reinforcement and response priming; 2) Extinction of disruptive behaviors; 3) Increase of academic requirements contingent upon disruptive behavior; and 4) Fading out the response-reinforcement relation.

Reinforcement and response priming. On the first day of the reinforcement procedure, the children were met by the teacher at the door and each was handed two pieces of M & M candy as he entered the room. The teacher told each child, "I'll show you how you can get more candy when we start class." This reinforcement and response-priming procedure has been found to be effective when the reinforcer is used in a new context (Ayllon & Azrin, 1968). Immediately thereafter, the teacher went to her desk, picked up the assignment sheets, and proceeded to explain to the students both the assignment and its relationship to the reinforcer. The instructions were as follows:

> I'm going to tell you how to get more candy. The sheet I am now giving you (the teacher at this time gave each child an assignment sheet) shows words. Put a line between the words that are alike and you will get some candy. You have three minutes to do it. When you hear the bell, I'll check your work and you will get candy if you've done it correctly.

She then proceeded to set up a kitchen timer for a three-minute period. The first two assignments on the first day of the reinforcement procedures included a shaping procedure designed to reinforce various attempts at doing the assignments. The children were given one candy if they attempted doing the assignments, that is if they wrote anything at all relevant to the task on their assignment sheets. The shaping procedure was discontinued after the first two assignments. From then on, one piece of M & M candy was given to each child if, at the end of the three minute time limit for each assignment, he had <u>correctly</u> completed his written assignment without assistance. Each assignment was checked by the teacher at the end of each three minute interval whereupon she gave points and candy to the child for correct completion of assignments within the time limit. Upon request from a child the teacher freely gave more instructions and assistance. Such assistance, however, made the child ineligible for candy or points for that assignment.

The candy reinforcement was also paired with a point system: zero points were given for failure to perform or complete the assignment within the given time limit and two points were given to the child if he had correctly completed his assignment at the end of the three minute time limit. At the end of the school day, the children who had earned between 80% and 100% of the possible points available were given public recognition in the classroom by the teacher. This public recognition consisted of the child's being called to the front of the class, receiving praise, and also being given a "bonus" of three to five pieces of candy.

Extinction of Disruptive Behaviors

No attention or candy was given for behaviors that competed with the child's completion of his assignment within the alloted three minute period. The teacher was instructed to discontinue focusing her attention on whether or not the children were looking out the window, playing with each other, resting their heads on their desks, sharpening pencils, and so on. This extinction procedure was paired with any behaviors that competed with the children's following the instruction from the teacher and reinforcement was paired with following instructions. The degree to which the children followed instructions was determined from examination of the percentage of assignments they completed correctly, as it would be virtually impossible to complete assignments without following the teacher's instructions.

Increase of academic requirements contingent upon disruptive behavior

During the Classroom Instruction period the teacher expelled a number of children from the classroom. These children were typically expelled for behaviors such as fighting or chasing each other with ball-point pens as weapons. When expelled, these children were taken to either the principal's office or the office of the school guidance counselor. To facilitate achievement of academic objectives, it was necessary to arrange an alternative procedure that would enable the teacher to continue with the class despite serious disturbances produced by a relatively small number of the children. A modification of the teacher's original procedure for expelling children was used. When a child was expelled, the teacher took him out of the classroom while telling him, "I won't have that here; you go with her." The teacher then turned the child over to an assistant, other than the observer, who took the child to an empty classroom. While absent from the

classroom neither candy nor points were available to the child for doing work. An additional procedure was explored with the expelled children. The children were told,

> You can go back to your classroom once you have finished your work. During your stay here you will continue doing the same work that everyone in your class is doing. You are not allowed to leave the room for recess or to speak without permission. If you want help, raise your hand and I'll come to help you. Now here is your work assignment. You have three minutes within which to finish it.

The assistant then gave the child two assignments to be completed. Thus, the academic requirement for the child who was expelled from the classroom was increased over what he would have been required to do had he not been expelled.

The assistant set up the timer for three minutes and then sat down a few feet from the child. When the ring signalled the termination of the three minute period, the assistant returned to the child and inspected his work. If the work was correctly completed, the child was escorted back to his classroom. If, however, the child had not finished his work, he was given more work to do and reminded that he could return to the classroom as soon as he finished his work. This procedure was repeated every time a child was expelled from the classroom. The longest period that any child was required to remain outside the classroom was slightly over one and one-half hours.

Fade-out of the Response-Reinforcement Relation.

To insure that the teacher would be able to resume her teaching without the response-reinforcement relationship of the behavior management techniques, a period of instruction was initiated during which the teacher retained only the use of the assignments and their time limits. Three features distinguished this period from the Behavior Management period:

1) the teacher did not correct the assignment immediately upon completion; 2) she discontinued giving points; and 3) candy was made available as the child entered the classroom in the morning and not upon the completion of assignments. This "morning candy" was gradually faded out; the candy given ranged from 24 pieces on day nine, nine pieces on day 10, three pieces on day 11, one piece on day 12, and no candy on days 13, 14, 15, and 16.

Results

The initial four-day period of observations generated two distinct classes of quantifiable information: 1) the teacher's activities, i.e. "teaching behavior;" and 2) the children's academic behavior. First, we need to consider only "teaching time" for the purpose of evaluating the results. We may say that "teaching time" is the mirror image of "non-teaching time" because, in our observational system, when the teacher is not engaging in one of these behaviors, she is, by definition, engaging in the other. Thus, one behavior may be defined logically as the reciprocal or mirror image of the other.

The second type of information generated concerned the children's academic performances. Their academic performances were evaluated on two dimensions: 1) the number of written assignments that the children were given each day and 2) the percentage of correct work performed by the children.

Insert Figure I about here

Figure I shows that the teacher spent zero percent of her time engaged in "teaching" behavior before the behavior management techniques were intro-

duced into the classroom. Under those conditions, it is clear that no academic objectives could be achieved since there is literally "no time" for such activities. It must be pointed out again that the recording procedure used in this study was very stringent. Unless the teacher spent a minimum of four minutes in any given five minute interval "teaching," that interval was classified as a "non-teaching" interval. This means that the teacher could have spent as much as three minutes and fifty-nine seconds "teaching" and still have the interval classified as a "non-teaching" interval.

As soon as the techniques for behavior management were introduced the percent of time the teacher spent in "teaching" increased dramatically. The increase took place within four days, with the "teaching time" increasing from zero percent on Day 1 to more than 65% on Day 8. Fade-out of the techniques for behavior management began on Day 9. During the next four days, the "teaching stabilized to a rate of 70% to 80%. On Day 13, the period of Classroom Instruction was reinstated. That day, the teacher complained at noon that she could not eat and was not feeling well, and further, was not sure that she could stay for the afternoon. She did return that afternoon and continued teaching, but at a level 20% lower than the previous day. She called in sick on Day 14 and did not report for work that day. Upon her return on Day 15, her "teaching time" increased to 83%. During her absence on Day 14, she was replaced by a seasoned teacher with several years of experience. The "teaching time" for that day was only 25%, and the substitute teacher spent most of her day trying to achieve and maintain a semblance of discipline in the classroom. When classroom Instruction was reintroduced, Fig. 1 shows that the teacher spent 90 to 100% of the time "teaching."

Insert Figure 2 about here

Figure 2 shows the number of academic assignments given to the children per day. It can be seen that initially, during the period of Classroom Instruction, the children received only three to five assignments per day. The teacher had to be encouraged daily to give the children written assignments from which information could be gathered on the children's academic performance. What seemed painfully obvious to the teacher, and to the impartial observers, was that it all seemed so senseless, and such a waste of time since the children were so oblivious to the teacher's instructions and assignments. Some simply ignored the assignments, others threw them on the floor, while still others were engaged in their own individual activities which competed with any efforts to listen to or comply with the instructions that accompanied the assignments. The children's general indifference to the teacher's instructions and assignments accounts for the low number of assignments distributed during the Classroom Instruction period. When the techniques for behavior management were introduced, the number of academic assignments given went up rapidly from an average of 4 per day during the Classroom Instruction phase to 14 on the first day of implementation of behavior management. On succeeding days, the number of assignments continued to climb until they reached a high of 18 per day. Even during the fade-out of the techniques for behavior management on days nine through 12, the children continued receiving an increasing number of assignments up to as many as 24 per day. When the substitute teacher replaced the regular teacher who was ill (Day 14), she did not attempt to give out any written assignments thus rendering the quentification of the children's

assignments impossible. Upon her return to school during the reinstatement of Classroom Instruction the regular teacher resumed giving as many as 24 assignments per day per child.

Insert Figure 3 about here

Figure 3 shows the percentage of correctly completed academic assignments for the class of 14 children. During the Classroom Instruction period, when the only alteration in teaching was in the giving of timed assignments, not one child completed any of the academic assignments that were distributed. When the techniques for behavior management were introduced, there was an immediate increase so that 65% of the assignments were correctly completed each day. The procedure for fade-out of the response-reinforcement relationship did not eliminate the children's improved academic performance. Days nine through 12 show that the percent of assignments completed by the children after withdrawal of the behavior management procedures remained within 19% of that reached during the period of reinforcement. When Classroom Instruction was reinstated on days 13 through 16, the children's academic performance was maintained, except when the substitute teacher was present on Day 14.

During baseline procedures, none of the 14 children completed even 50% of their assignment. Once behavior management was introduced, every one of the 14 children completed some percentage of the daily assignments, and eight of them completed at least 50% of the daily assignments. This number remained relatively stable even after the procedures were withdrawn.

Prior to the introduction of the behavior management techniques, an average of two children per day were expelled during the Classroom Instruction period or baseline. The number of children expelled increased initially to an average of six children per day for the following four-day period during which the introduction of behavior management techniques were in force. However, when the behavior management procedures were withdrawn and classroom instruction was reinstated no more children behaved so badly as to require their expulsion from class.

Supportive evidence of the children's academic improvement is found in the number of children promoted from the special classroom for the educable mentally retarded to the standard classroom. It should be noted here that according to the regulations of the school, promotion could have taken place at any time that the performance of the children warrented it. Prior to the Spring quarter, not one child was promoted to the regular classroom, but after the techniques for behavior management were put into effect during the Spring quarter, six of the 14 children, or more than 40% of the class was promoted to standard classrooms.

Discussion

The effectiveness of the behavior management procedures used here is consistent with the results obtained in previous studies with a wide range of behaviors and populations (see anthologies by Ullman and Krasner, 1965; and Ulrich, Stachnik, and Mabry, 1966).

Auxiliary observations of the behavior of the children show that the children greeted the first few assignments on the first day of reinforce-

ment with a great deal of shouting, running around the room, and in some instances with total indifference. As soon as the time was up, however, and the children saw the teacher handing out the candy, many of the children who had not paid any attention to the teacher's instructions to complete the assignment quickly asked the teacher to allow them to do so. The teacher advised these children to wait a few minutes since the next assignment would start as soon as she finished correcting those already completed. During the first day, most of the children's indifference, shouting, and running about the room while the instructions were being given to work on the assignments, was drastically reduced. Whenever a child had not completed the assignment on time (within three minutes), the teacher would immediately inform the child that he had another chance to "win" candy, since the next assignment would start as soon as she finished correcting the other children's work. Initially, this led to some temper tantrums and crying on the part of a few children. However, the teacher did not reinforce such outbursts, e.g., she looked away from the child and busied herself with other children. As the teacher allowed such behavior to go on without disrupting the next assignment, gradually these outbursts subsided.

The teacher's behavior in the classroom as well as the children's academic performance was under observation throughout the entire period of behavior intervention which covered a total of sixteen days. The method used here allowed us to compare the children's performance with their own performance rather than with that of a control group. The critical comparison is that between their academic performance under Classroom Instruction and that under the techniques for behavior management. The results indicate that a dramatic change was possible in a short period of time. Further, the children performed well academically, even after the candy had been withdrawn. This particular finding was critical since

what is of interest to the teacher is whether any new gains in performance can be maintained in the absence of the method that generated those gains. Indeed, the question as to what happens to the children's performance once the behavioral techniques themselves are withdrawn was also answered. One month later, the teacher and the children were working so smoothly that it was, in the words of a supervisor, "hard to believe it is the same group of children." A follow-up of these children at the end of the spring quarter showed that their academic progress was enduring even after the behavior management techniques were discontinued. Generalization of the children's progress was evidenced by the promotion of 6 out of 14 children to the standard classroom, an action never contemplated by the teacher prior to the implementation of the techniques for behavior management.

Conclusion

The teacher's classroom performance is highly influenced by the pupil's disruptive behavior. The technique advanced here for measuring and recording "teaching behavior" in the classroom is a simple and reliable one. This technique makes it possible to assess the effects of the children's misbehavior on the teaching. In stressing children's academic performance as the relevant criterion for effective teaching the technique renders the target behavior of academic performance amenable to identification and eventual alteration.

The present recording method included observations of the teaching and of the academic performance of the children. The findings indicate that once the teacher is teaching, giving and correcting academic assignments, the time-consuming five minute observations requiring extra personnel become less relevant. Indeed, as the teacher becomes effective in the classroom the criterion for evaluation of the teacher's success shifts to the children's academic performance.

A reversal procedure, often used in applied behavior analysis to establish the relationship between behavior and its consequences, was not used here. Instead, the introduction of a substitute teacher for one day served functionally as a control procedure. The choice of a substitute was important. It was fortunate that the substitute had familiarity with the students since she had taught this class on different occasions. Therefore, the substitute lacked neither experience ("rapport") with these very children nor with suitable curriculum for them. Further, a five hour observation of this teacher while she was teaching a normal class revealed that her teaching time was in excess of 85%, with a reliability between observers of greater than .95. This control procedure enabled us to determine the relative effects of the presence and absence of behavioral procedures on teaching. The very low percent of time spent teaching the EMR class strongly suggests the severe limitations imposed by the misbehavior of the pupils, rather than by the training of the teacher. While the relative effects of increased academic requirement upon misbehavior cannot be experimentally evaluated in this application, from an applied viewpoint the procedure appears to be helpful in preventing severe classroom disruption.

The findings of this study suggest that the locus of therapeutic intervention in working with school children could be more profitably shifted from the clinic to the classroom. Further, these results support previous findings which indicate that the teacher can, and does, operate as an agent of behavior change par excellence (Harris, Wolf, and Baer, 1964; Becker, Madsen, Arnold, and Thomas, 1967; and Thomas, Becker, and Armstrong, 1968). Indeed, because the teacher spends more time with the child than anyone else except the child's family, she has the necessary opportunities to implement the desired changes in the children's behavior.

In addition, as the teacher is the medium through whom the child gains his formal education she can specify what the target behaviors are for each child. Finally, because of her authority in the classroom, the teacher is in an enviable position from which to implement and adjust reinforcement contingencies for any and all children under her care.

The total expense of this project both in terms of time and personnel was infinitesimal when compared with alternative means of delivering psychiatric services to the children involved. Two para-professional observers were trained to record the behavior of the teacher and the children. Neither of them was schooled in psychology or learning theory. Further, the teacher pupil ratio reported here is more in line with that typically found in the EMR classroom than most applications reported in the literature. Finally, the short period of time for actual intervention, 4 days, recommend these procedures as highly practical for most classroom settings. In the opinion of the school teacher and the principal, the behavioral assistance reported here liberated the teacher from the burdensome and onerous task of disciplining and permitted her to teach. She ceased being a "task master" and became a "teacher" in the noblest sense of the word.

Figure Legends

Fig. 1 Percent of teacher's teaching behavior before, during and after the techniques for behavior management.

Fig. 2 Number of written academic assignments given by the teacher before, during and after the techniques for behavior management.

Fig. 3 Percent of assignments correctly performed by the 14 children before, during and after the techniques for behavior management.

Footnotes

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[2]Portions of this paper were presented at the Symposium on Behavior Analysis in Education, Lawrence, Kansas, 1970, and the Southeastern Psychological Association, Louisville, Kentucky, 1970.

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Table 1

Average Number of Children Completing 50% or More of Their Daily Assignments *

Classroom Instruction	Behavior Management		Classroom Instruction
	Introduction	Fading Out	
0	8	7	6

Total Number of Children: 14

*Each block is based on a four day period.

Table 2

Average Number of Children Expelled from the Classroom *

Classroom Instruction	Behavior Management		Classroom Instruction
	Introduction	Fading Out	
2	6	3	0

Total Number of Children: 14

* Each block based on a four day period.

Fig. 1

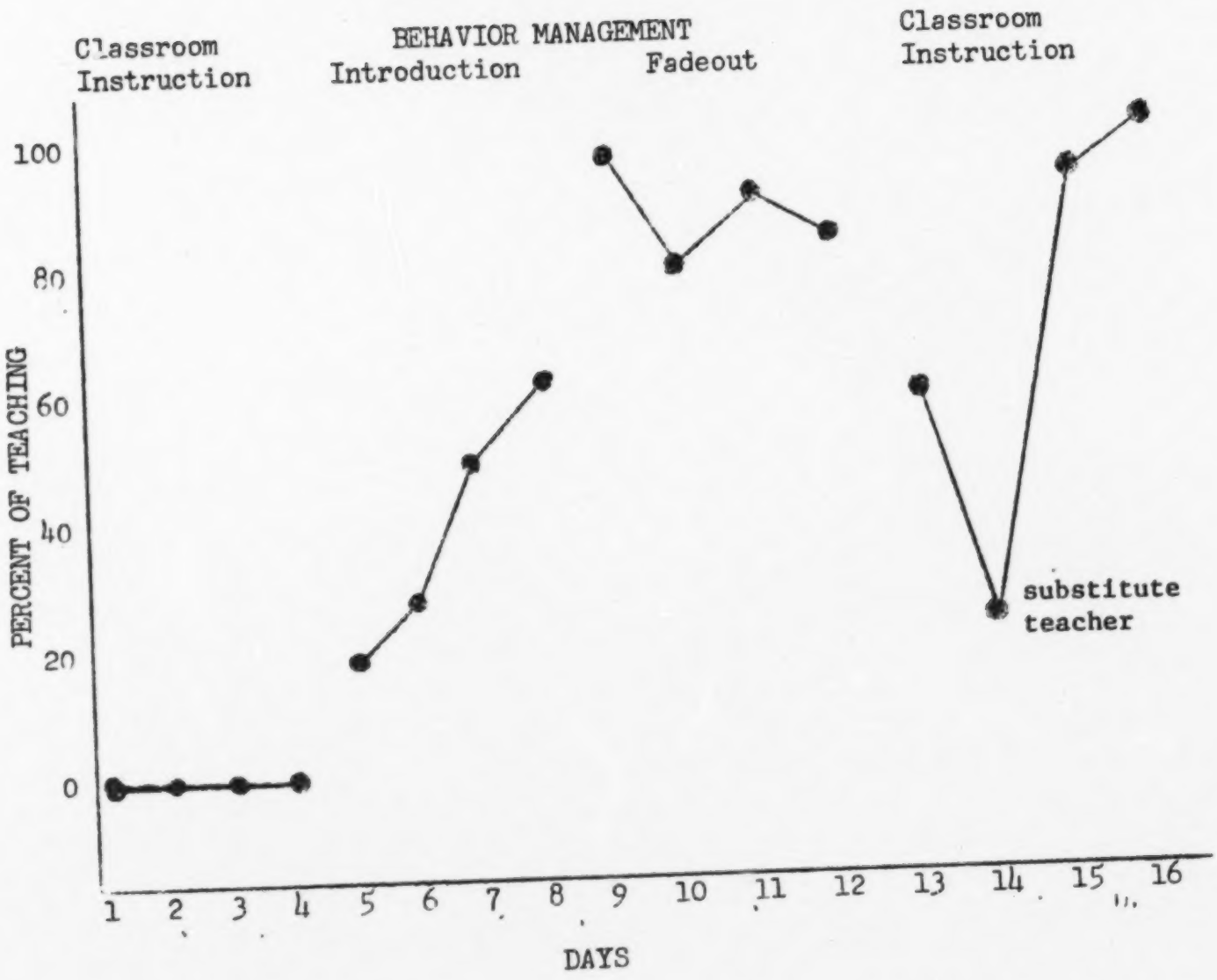

Classroom Instruction
BEHAVIOR MANAGEMENT
Introduction
Fadeout
Classroom Instruction
100
80
60
40
20
0
PERCENT OF TEACHING
substitute teacher
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
DAYS

Fig 2

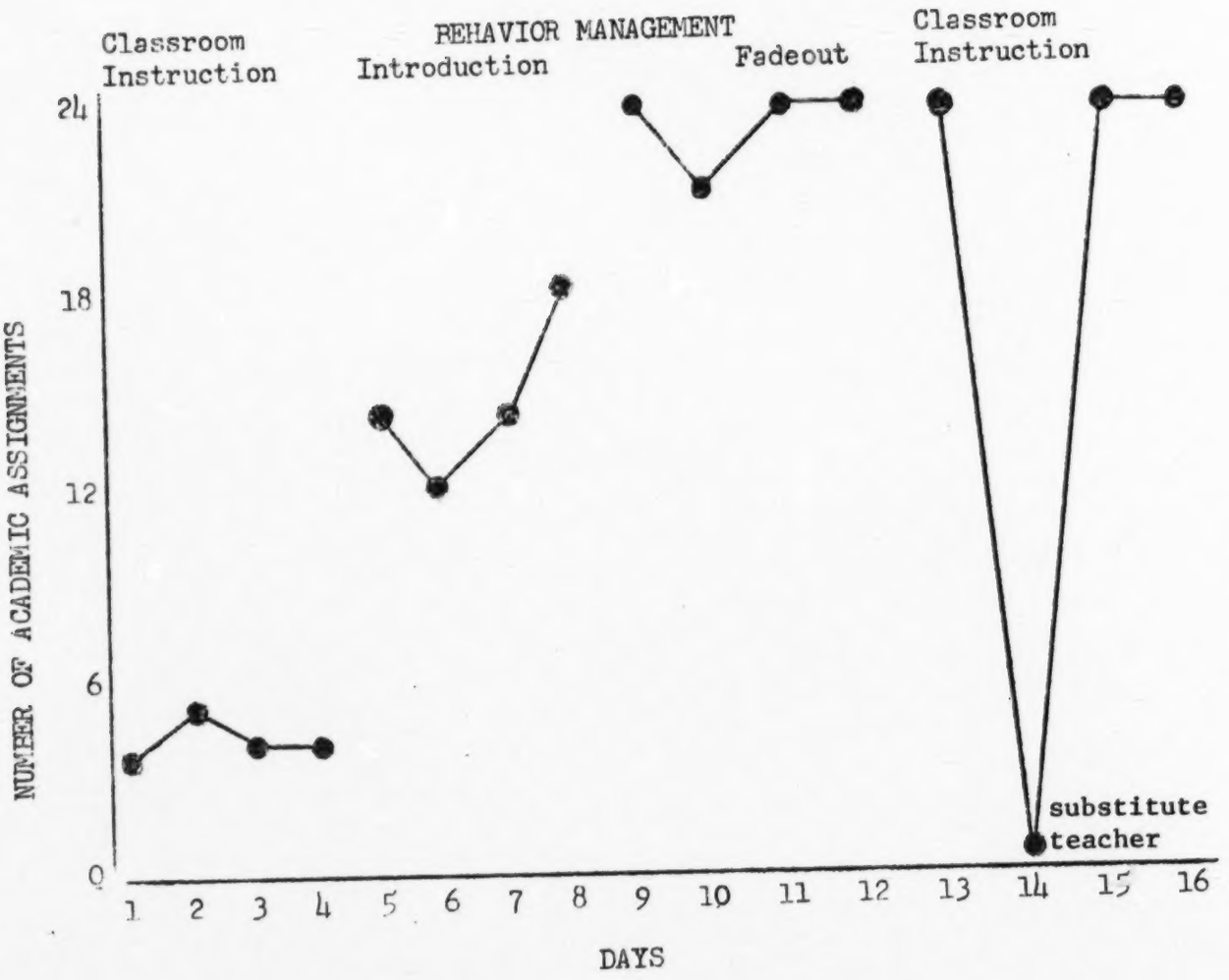
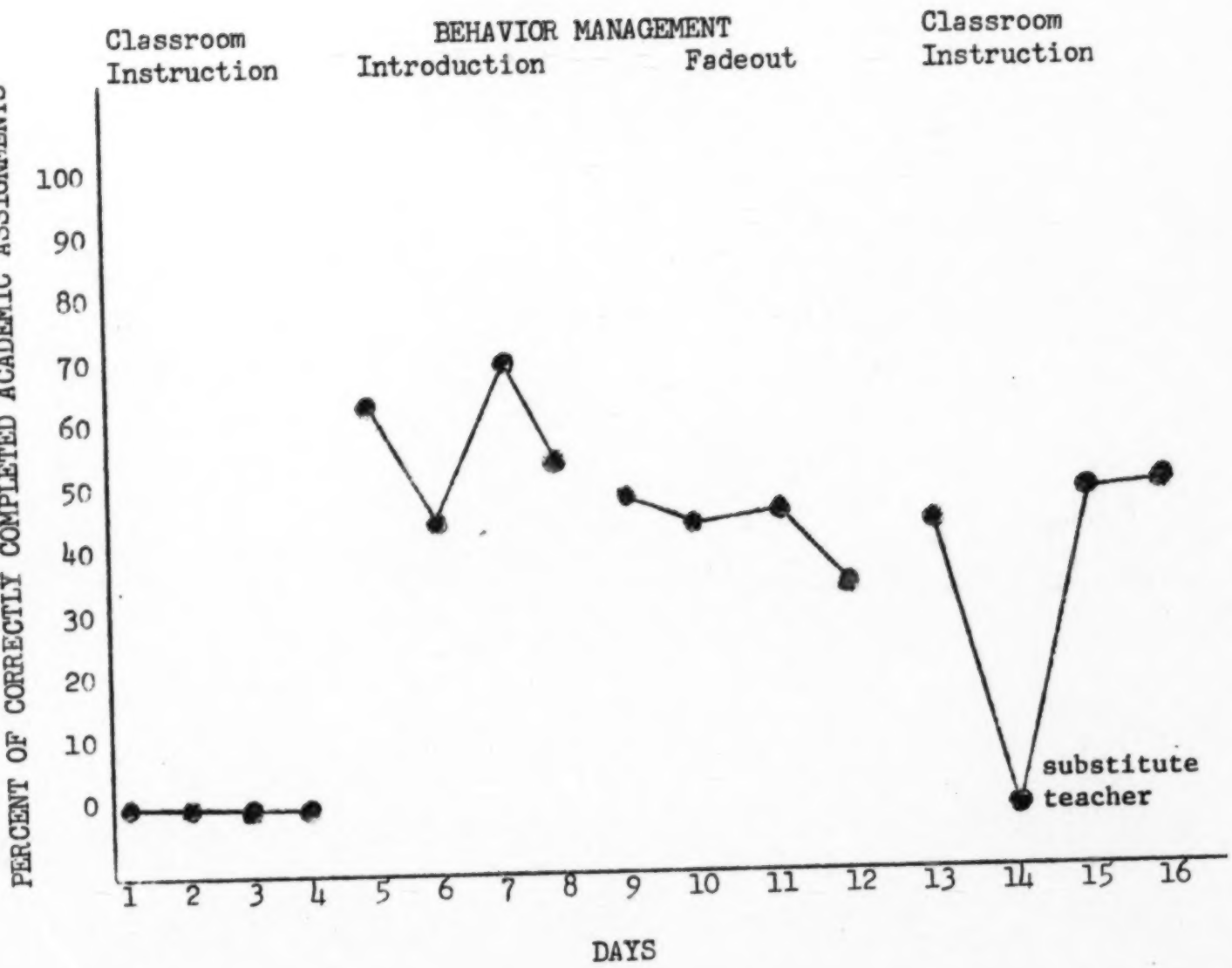

Classroom Instruction
BEHAVIOR MANAGEMENT
Introduction
Fadeout
Classroom Instruction
NUMBER OF ACADEMIC ASSIGNMENTS
24
18
12
6
0
substitute teacher
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
DAYS

Fig. 3


Classroom Instruction
BEHAVIOR MANAGEMENT
Introduction
Fadeout
Classroom Instruction
PERCENT OF CORRECTLY COMPLETED ACADEMIC ASSIGNMENTS
100
90
80
70
60
50
40
30
20
10
0
substitute teacher
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
DAYS